



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,619	12/09/2003	John Scott Kennen	10021	5548
35420	7590	05/21/2007		
MICHAEL P. MAZZA, LLC 686 CRESCENT BLVD. GLEN ELYN, IL 60137			EXAMINER CRABTREE, JOSHUA DAVID	
			ART UNIT 3714	PAPER NUMBER
			MAIL DATE 05/21/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

ED

Office Action Summary	Application No. 10/731,619	Applicant(s) KENNEN ET AL.	
	Examiner Joshua D. Crabtree	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to:
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3714

DETAILED ACTION

1. The following office action is in response to the amendment dated 2/28/2007. Claims 1-39 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 19, 20-22 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Swensen et al (U.S. Pub. No. 2004/0014010 A1) for the reasons set forth in the prior Office action and incorporated herein.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 3714

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3-5, 7, 8 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic (U.S. Pat. No. 5,026,158) in view of Richardson et al (U.S. Pub. No. 2005/0023763 A1) for the reasons set forth in the prior Office action and incorporated herein.

4. Claims 18 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic (U.S. Pat. No. 5,026,158) in view of Richardson et al (U.S. Pub. No. 2005/0023763 A1) and further in view of Smith et al (U.S. Pat. No. 4,494,198) for the reasons set forth in the prior Office action and incorporated herein.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic (U.S. Pat. No. 5,026,158) in view of Richardson et al (U.S. Pub. No. 2005/0023763 A1) and further in

Art Unit: 3714

view of McGivern (U.S. Pub. No. 2003/0101604 A1) for the reasons set forth in the prior Office action and incorporated herein.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic (U.S. Pat. No. 5,026,158) in view of Richardson et al (U.S. Pub. No. 2005/0023763 A1) and further in view of Edwards (U.S. Pat. No. 6,871,439 B1) for the reasons set forth in the prior Office action and incorporated herein.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic (U.S. Pat. No. 5,026,158) in view of Richardson et al (U.S. Pub. No. 2005/0023763 A1) and further in view of Kendir (U.S. Pub. No. 2005/0153262 A1) for the reasons set forth in the prior Office action and incorporated herein.

8. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic (U.S. Pat. No. 5,026,158) in view of Richardson et al (U.S. Pub. No. 2005/0023763 A1) and further in view of LaBelle et al (U.S. Pat. No. 7,053,992 B2) for the reasons set forth in the prior Office action and incorporated herein..

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic (U.S. Pat. No. 5,026,158) in view of Richardson et al (U.S. Pub. No. 2005/0023763 A1) and further in view of Hawkes et al (U.S. Pat. No. 6,237,462 B1) for the reasons set forth in the prior Office action and incorporated herein.

Art Unit: 3714

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic (U.S. Pat. No. 5,026,158) in view of Richardson et al (U.S. Pub. No. 2005/0023763 A1) and further in view of Sammut et al (U.S. Pub. No. 2005/0021282 A1) for the reasons set forth in the prior Office action and incorporated herein.

11. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic (U.S. Pat. No. 5,026,158) in view of Richardson et al (U.S. Pub. No. 2005/0023763 A1) and further in view of Giry et al (U.S. Pat. No. 5,675,112) for the reasons set forth in the prior Office action and incorporated herein.

12. Claims 23, 26, 28, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swensen et al (U.S. Pub. No. 2004/0014010 A1) in view of Garthe et al (U.S. Pat. No. 6,513,511 B1) for the reasons set forth in the prior Office action and incorporated herein.

13. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swensen et al (U.S. Pub. No. 2004/0014010 A1) in view of Garthe et al (U.S. Pat. No. 6,513,511 B1) and further in view of Nibecker, Jr. (U.S. Pat. No. 6,701,908 B2) for the reasons set forth in the prior Office action and incorporated herein.

Art Unit: 3714

14. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swensen et al (U.S. Pub. No. 2004/0014010 A1) in view of Bergstrom (U.S. Pat. No. 6,901,689 B1) for the reasons set forth in the prior Office action and incorporated herein.

15. Claims 25 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swensen et al (U.S. Pub. No. 2004/0014010 A1) in view of Garthe et al (U.S. Pat. No. 6,513,511 B1) and further in view of Richardson et al (U.S. Pub. No. 2005/0023763 A1) for the reasons set forth in the prior Office action and incorporated herein.

16. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swensen et al (U.S. Pub. No. 2004/0014010 A1) in view of Tann (U.S. Pat. No. 4,316,145) for the reasons set forth in the prior Office action and incorporated herein.

17. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swensen et al (U.S. Pub. No. 2004/0014010 A1) in view of Tann (U.S. Pat. No. 4,316,145) and further in view of Adcock (U.S. Pat. No. 6,718,962) for the reasons set forth in the prior Office action and incorporated herein.

18. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Golubic (U.S. Pat. No. 5,026,158) in view of Eppenstein (U.S. Pat. No. 2,040,171) for the reasons set forth in the prior Office action and incorporated herein.

Response to Arguments

19. Applicant's arguments with respect to claims 1-37 have been fully considered but they are not persuasive. Applicant has argued, with respect to claim 1, that it would not have been obvious to combine Golubic and Richardson because the use of such technologies as described cannot be applied in a practical application to solve the same problem. The examiner respectfully disagrees.

Applicant has argued, with respect to claim 3, that Golubic does not disclose the use of both firearms and projectiles, whether for use in archery or for use in other weapons. However, this feature does not appear in the claim. Specifically, claim 3 recites the limitation "wherein the hunting instrument comprises a gun and the projectile comprises a bullet or pellets". Golubic discloses the feature of a rifle (Col. 2: 33-41), and that the invention more generally applies to firearms and weapons that operate by propelling a projectile (Col. 1: 11-17).

Applicant has argued that although Golubic discloses the claimed limitations of claims 4, 5, 7, and 8, the invention of Golubic implements the features in a different manner than that of the application (p. 13). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claimed structural elements are found in Golubic, therefore Golubic reads on the claims.

Applicant has argued, with respect to claim 5, that Golubic does not disclose the claimed limitations. As stated in the previous office action, Golubic discloses the display of an impact-point reticle which indicates where the projectile discharged from the rifle will impact relative to the zero-range reticle (Col. 2: 36-41; Col. 5: 27-27). Claim 5 recites the limitation "wherein the

Art Unit: 3714

image editing software and the trajectory calculating software enable display of a site zero impact location on the screen". The impact-point reticle of Golubic would indicate the impact point of a projectile, and therefore reads on the claim.

Applicant has argued, with respect to claim 7, that a person of ordinary skill in the art would not have combined the references of Richardson and Golubic. Applicant argues that Richardson requires that all of the data be collected, processed and displayed from stationary unit and not from mobile, self-contained units as with the instant application. The examiner has not relied on Richardson for such a teaching, and thus the argument is moot. Furthermore, as stated in the previous office action, Golubic discloses the feature wherein a user may switch between display modes (Col. 4: 37-55). With regard to claim 7, the examiner has only relied on Richardson to teach the feature wherein one of the images displayed is that of a projectile. The examiner maintains that one of ordinary skill in the art would be motivated to implement the feature wherein an image of a projectile may be displayed, as taught by Richardson, into a projectile firing system such as the invention of Golubic.

Applicant has argued, with respect to claim 8, that the impact point would be more accurately determined by the applicant's system, than with the system of Golubic. However, since the applicant has not disputed the examiner's assertion that the claimed limitation is disclosed by Golubic, the argument is moot. Furthermore, Golubic discloses the claimed limitations, as described in the previous office action (Col. 3: 38-41; Col. 5: 59-62; Col. 7: 62 – Col. 8: 26; Items 62 and 63 in Fig. 6; Col. 7: 62 – Col. 8: 26).

Applicant has argued, with respect to claims 18 and 39, that it would not have been obvious to combine the references of Richardson, Smith, and Golubic because the Smith

Art Unit: 3714

reference is used for actual aiming and firing of ammunition, rather than in a simulation. The examiner respectfully disagrees. Independent claims 1 and 38 (from which claims 18 and 39 depend, respectively) both recite the limitation of a “hunting instrument capable of firing a projectile”. All three of the references Golubic, Richardson, and Smith include this feature. Therefore, the examiner maintains that it would have been obvious to combine the references as described in the previous office action. Furthermore, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant has argued, with respect to claim 6, that the references of Golubic, Richardson, and Edwards could not be combined because the Edwards reference involves a receiver placed on the target, so that data may be recorded and processed. The examiner respectfully disagrees. Both the inventions of Golubic and Edwards include the feature of deriving an impact point (*Golubic shows this in Col. 7: 62 – Col. 8: 26; Edwards shows this in Col. 19: 32-49*). Edwards teaches the feature of implementing an algorithm for defining the “casualty zone” of a target (19: 32-49). Since the invention of Golubic may implement a microprocessor to calculate the trajectory of a projectile (Col. 7: 20-60), it would be reasonable to expect that the invention of Golubic could implement an algorithm, as taught by Edwards, using the microprocessor. Furthermore, Edwards teaches that this feature increases the likelihood of creating a casualty. This advantage would provide motivation to one of ordinary skill in the art to combine the references of Edwards and Golubic, as described in the previous office action.

Applicant has argued, with respect to claim 9, that the Kendir reference could not be combined with Golubic and Richardson, because the invention of Kendir could not be used in a simulated environment where live wild animals are being used, and that the receiver and notification system be part of the target. The examiner notes that claim 9 recites the limitation “wherein the shot result information comprises whether or not the shot was a ‘kill’ shot”. This feature pertains solely to the specific information included as part of the “shot result information”. As previously stated, Golubic discloses the feature of displaying shot result information (Col. 3: 38-41; Col. 5: 59-62; Col. 7: 62 – Col. 8: 26). Therefore, it would have been reasonable to assume that one could successfully modify the invention of Golubic to display any specific information desired by a user, including the notification of a “kill shot”, as taught by Kendir (Paragraph [0135]). With regard to the applicant’s assertion that the invention of Kendir could not be used in a simulated environment where wild animals are being used, this feature is not present in the claim. Furthermore, the examiner has not relied on Kendir for such a teaching. The examiner has only relied on Kendir for the teaching of the specific information (such as “kill shot”) to be displayed along with the other shot result information included in the invention of Golubic.

Applicant has argued, with respect to claims 10 and 12, that the LaBelle reference is nonanalogous to Golubic. The examiner respectfully disagrees. Golubic incorporates a range finder as part of the invention (Col. 3: 5-10; Item 32 in Fig. 3; Col. 4: 56-68). LaBelle discloses a rangefinder (Col. 1: 13-15). Therefore, the inventions of LaBelle and Golubic are analogous art. The applicant has argued that LaBelle does not use target speed and distance to solve the problem of delivering and displaying a simulated shot. The examiner notes that claim 10 recites

Art Unit: 3714

the limitation “wherein the image editing software and the trajectory calculating software provide the user with information concerning target speed at the time of the shot”. This limitation pertains to calculating and displaying the speed of a target. As stated in the previous office action, Golubic, as modified by Richardson et al., do not explicitly disclose this feature. LaBelle et al. teach a rangefinder which provides the user with the speed of the target (Item 314 in Fig. 3; Col. 4: 58 – Col. 5: 3). It would have been reasonable to assume that the microprocessor of Golubic could be used successfully to calculate a target speed, as taught by LaBelle.

Applicant has argued that the invention of LaBelle is not comprised as a component of a gun, and that one of ordinary skill in the art would not have been motivated to combine the references of LaBelle, Golubic, and Richardson. The examiner reiterates that the invention of Golubic already includes a rangefinder, albeit a rangefinder lacking the very specific feature of calculating target speed. Since LaBelle teaches a rangefinder with this capability, one of ordinary skill in the art would have been motivated to include this teaching into the invention of Golubic, as modified by Richardson et al.

Applicant has argued, with respect to claims 11 and 13-16 that the references would not be properly combinable because of the different intended uses of the inventions (real firing of a projectile versus simulated). The examiner respectfully disagrees. The parent claim 1 recites the limitation of a “hunting instrument capable of firing a projectile”. This feature is found in each of the references of Golubic (Fig. 1), Richardson (Paragraphs [0005 – 0006]), Hawkes (Col. 1: 30-50), Sammut (Paragraph [0025]), and Giry (Fig. 5). Therefore, the examiner maintains that it would have been obvious to combine the references as described in the previous office action. Furthermore, a recitation of the intended use of the claimed invention must result in a structural

Art Unit: 3714

difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant has argued, with respect to claims 14-16, that Giry's use of transferred data is different than that of the instant application. The examiner reiterates that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant has argued, with respect to claim 17, that McGivern's use of a display is different than that of the instant application. The examiner reiterates that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant has argued, with respect to claim 19, that Swensen fails to disclose the limitations of "a momentum suppression rod, a cavity and a piston moveable within the cavity, the piston being capable of providing back-pressure to the bow string upon release of the drawn string commensurate to that which an arrow imparts when actually fired from the bow" (p. 11). As previously described, Swensen et al. disclose this feature (Paragraph [0028 - 0029]; *Piston 56 and rod 58, shown in Figs. 3A-B*). Applicant remarks that the prior art differs in how the elements are used, compared to the elements in the application. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and

Art Unit: 3714

the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicant has argued, with respect to claim 22, that Swensen discloses pneumatic, not hydraulic actuation for the rod (p. 11). The examiner notes that claim 22 recites "wherein the momentum suppression rod is hydraulically and/or pneumatically actuated." This wording leaves open the possibility that the rod may be either hydraulically or pneumatically actuated. Since the Swensen rod may be pneumatically actuated, the reference reads on the claim.

Applicant has argued, with respect to claim s 23, 26, 28, 35, and 36, that the references of Garthe and Swensen are not combinable because of different intended uses of the inventions. The examiner respectfully disagrees. The inventions of Swensen and Garthe are both drawn to archery bow devices, and are therefore analogous art.

Applicant has argued, with respect to claim 28, that Garthe does not teach the feature wherein the walls of the cavity are machined to substantially minimize rod flex and distortion. The examiner maintains that Garthe teaches that the invention is rugged, as described in the previous office action. The following definitions for "rugged" are presented:

Rugged- sturdy and strong in constitution or construction; enduring

(Retrieved from <http://wordnet.princeton.edu/perl/webwn?s=rugged>)

Rugged- strongly built or constituted

(Retrieved from <http://www.m-w.com/dictionary/rugged>)

Therefore, a rugged archery bow device, sturdy and strong in construction, would be less susceptible to flex and distortion.

Applicant has argued, with respect to claims 25 and 31 (pp. 22-23), that the references of Swensen, Golubic, and Richardson are not properly combinable because the technologies cannot

be combined to solve the same problem. The examiner respectfully disagrees. The references of Swensen, Garthe, and Golubic are each directed toward hunting devices, and would therefore be properly combinable in hunting applications.

Applicant has argued, with respect to claim 31, that Golubic fails to disclose the combination of a CCD with a momentum suppression rod. The examiner has not relied on Golubic for such a teaching, and thus the argument is moot. Rather, the examiner relied on Golubic for the teaching of a camera in a hunting device.

Applicant has argued, with respect to claims 24, 29, 30, 32, 33, and 37, that the prior art use of the recited elements is different than that of the instant application. The examiner reiterates that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

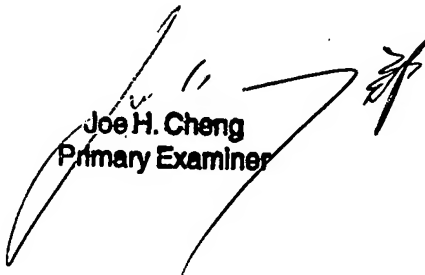
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua D. Crabtree whose telephone number is 571-272-8962. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua D. Crabtree
March 28, 2007



Joe H. Cheng
Primary Examiner